ferent seed source. But to obtain these, plants from widely different geographical sections or even wild plants from the native habitat may need to be secured.

A. B. STOUT.

NEW YORK BOTANICAL GARDEN.

AN ORTHOTROPOUS OVULE IN *HYACINTHUS ORIENTALIS* L.

While sectioning ovaries of the hyacinth for embryo sacs one ovary was found which shows two irregularities. One of the ovules in the upper part of the ovary is orthotropous instead of anatropous. This ovule, as figure 1 shows, is typical in all other respects, the integuments, micropyle, nucellus, and embryo

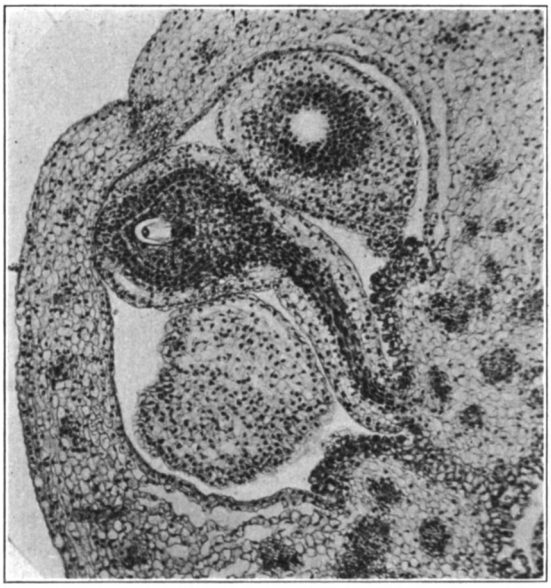

FIG. 1

sac being well formed and apparently functional. In the median portion of the ovary the carpels seem to be incompletely fused and the placentas are slightly displaced (Fig. 2). Mas-

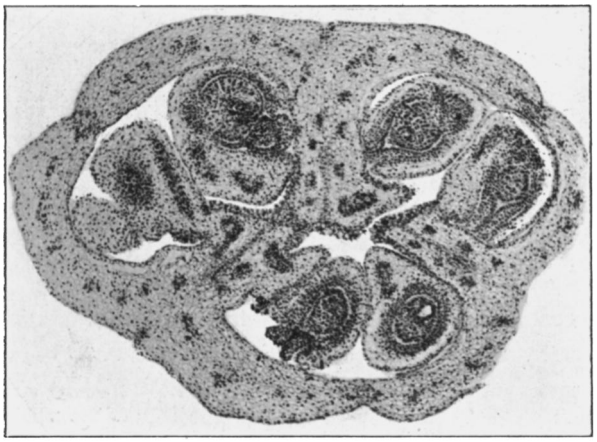

FIG. 2

ters[1] and Worsdell[2] describe many types of modified carpels and displaced placentas in a great variety of flowering plants. These authors describe also many modifications of ovules, but I do not find that either of them records a case of an orthotropous ovule in a plant which normally bears anatropous ovules.

A. M. SHOWALTER

A STATION FOR THE RAM'S-HEAD LADY'S-SLIPPER

On May 19, 1921, Philip D. Fagans, Executive Secretary of the Woodcraft League of America, discovered near Westport-on-Lake Champlain, New York, a colony of the Ram's-head Lady's-slipper (*Cypripedium arietinum* R. Brown) in bloom and collected a specimen which he showed the next day to Oliver P. Medsger, Head of the Department of Biology in the Lincoln High School, Jersey City, N. J., and myself. Since neither of us had seen this rare orchid growing, Medsger and I lost no time in visiting the place. Although we did not make a careful census, there were doubtless fifty or more plants in the colony. They were growing rather scattered in the meso-

[1] Vegetable Teratology. London. Ray Society, 1869.

[2] Principles of Plant Teratology. Vol. II. London. Ray Society. 1916.

phytic woods, mostly on a gently sloping hillside, only a few rods from the lake beach. Medsger made a photograph of a clump. Since Dr. House states that this plant has been collected but a few times in the northern counties of the State of New York, I thought this worth reporting.

G. CLYDE FISHER

AMERICAN MUSEUM OF NATURAL HISTORY

S. M. TRACY AS A BOTANIST

The recent death of S. M. Tracy has been felt as a keen personal loss by all who have known him not only as a broad-minded, many-sided investigator but as a most genial companion and friend. His main life work was with forage plants adapted to the Southern States and with the effort for securing a greater diversification of southern agriculture.

I had been experimenting with fungicides in the treatment of pear scab when I first met Tracy. I was delighted to find that he was interested in fungi and showed him my cultures. We at once became great friends and continued to correspond regarding fungi until the time of the New Orleans Cotton Exposition which took us both South where we both remained. I lived for ten years on the Gulf coast of Mississippi while he was director of the State Experimental Station at Starkville. He bought a summer home on the north coast of Biloxi Bay not far from us where he spent his vacations collecting and studying the Gulf coast flora. It was during this period that I was most closely associated with him tho later we were companions on several extended collecting trips, notably the one to the La Plata Mountains in southwest Colorado in company with C. F. Baker and at another time a long trip through the Davis Mountain country in western Texas.

As a horticulturist and practical green house man Tracy was naturally greatly interested in plant breeding. He did much practical work in the selection and improvement of varieties. At one time he was greatly interested in the long staple upland cottons and did much to improve and stabilize

these kinds. As a botanist however his interests were frankly taxonomic. He liked plants as such and liked to study their relationships. Living as he for the most part did away from the great botanical centers with their libraries and herbaria his activities naturally took the form of field work and of collecting rather than the writing of extended monographs. He loved the open, and the collection and preparation of specimens. He was always collecting in large sets which he distributed widely and in this way probably did more than any other man of his generation to make the plants of the Southern States available for study in all of the more important American and European herbaria. His interest in forage plants led him to specialize in the grasses. He was also a student of the parasitic fungi, particularly of the rusts and the smuts, the two groups most likely to be found on grasses. His botanical papers largely deal with these two groups in both of which he discovered and described a number of new species. As with the flowering plants however his collections and field studies of the fungi were much more extensive than his publications regarding them. Excepting for his early years in Missouri botany was Tracy's recreation rather than his chief work. During the long period of his activity however there were few who contributed more than he to the real knowledge of American plants.

F. S. EARLE.

REVIEWS

Martin's Botany with Agricultural Applications*

The suggestion of the technical implied by the original title of this volume (Botany for Agricultural Students) has led the publishers to issue the second edition under a new name, one that conveys somewhat more accurately the real nature of the book. While primarily designed as a text for agricultural students, the underlying principle of the book is one that is rapidly coming to the fore at the present day, viz., that, regard-

* Martin, J. N., Botany with Agricultural Applications, xii + 604 pages, 490 figures, John Wiley & Sons, New York, 1920, $3.00.